

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of the claims in the application.

**Claims Listing**

1-27. (Canceled)

28. (Currently amended) A method for applying a ~~continuous~~ reactive epoxy-containing coating to a substrate, comprising subjecting the substrate to a pulsed plasma discharge in the presence of glycidyl methacrylate vapor such that polymer growth of a reactive epoxy containing coating having epoxy groups ~~continuous coating containing reactive epoxy groups~~ occurs on a surface of the substrate, wherein the pulsed plasma discharge is achieved by applying a power pulse to the plasma, and wherein the average power density of the pulsed plasma discharge is less than  $0.0025 \text{ W/cm}^3$ .

29. (Cancelled).

30. (Previously presented) The method of Claim 28, wherein the pulsed plasma discharge is applied over a period of from 30 seconds to 20 minutes.

31-42. (Cancelled).

43. (Currently amended) The method of Claim ~~42~~ 44, wherein the nucleophilic reagent is a carboxylic acid or amine.

44. (New) A method for immobilization of a nucleophilic reagent at a surface of a solid substrate, comprising:

a) subjecting the substrate to a pulsed plasma discharge in the presence of glycidyl methacrylate vapor such that polymer growth of a reactive epoxy containing coating having epoxy groups occurs on the surface of the substrate, wherein the pulsed plasma discharge is achieved by applying a power pulse to the plasma and wherein the average power density of the pulsed plasma discharge is less than  $0.0025 \text{ W/cm}^3$ ; and

b) contacting the coating with a solution of the nucleophilic reagent under conditions such that the nucleophilic reagent reacts with the epoxy groups of the coating.